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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
10/826,787	04/16/2004	Scott A. McHugo	10030222-4	1281
7590 09/18/2006			EXAMINER	
AGILENT TECHNOLOGIES, INC.			PERKINS, PAMELA E	
Legal Department, DL429 Intellectual Property Administration			ART UNIT	PAPER NUMBER
P.O. Box 7599			2822	
Loveland, CO	80537-0599		DATE MAILED: 09/18/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

			<u>Z</u>
	Application No.	Applicant(s)	
	10/826,787	MCHUGO ET AL.	
Office Action Summary	Examiner	Art Unit	
	Pamela E. Perkins	2822	
The MAILING DATE of this communication ap Period for Reply	opears on the cover sheet wit	h the correspondence address	
A SHORTENED STATUTORY PERIOD FOR REPONDED FOR REPONDED FOR INC. - Extensions of time may be available under the provisions of 37 CFR 1 after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period. - Failure to reply within the set or extended period for reply will, by statudent Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNIC .136(a). In no event, however, may a red d will apply and will expire SIX (6) MON [*] tte, cause the application to become ABA	CATION. Apply be timely filed FHS from the mailing date of this communication. ANDONED (35 U.S.C. § 133).	
Status			
1) Responsive to communication(s) filed on <u>07</u>	September 2006.		
2a) This action is FINAL . 2b) ⊠ Th	is action is non-final.		
3) Since this application is in condition for allow	•		
closed in accordance with the practice under	Ex parte Quayle, 1935 C.D.	. 11, 453 O.G. 213.	
Disposition of Claims			
4)⊠ Claim(s) <u>14,16 and 17</u> is/are pending in the a	application.		
4a) Of the above claim(s) is/are withdra	• •		
5) Claim(s) is/are allowed.			
6)⊠ Claim(s) <u>14,16 and 17</u> is/are rejected.			
7) Claim(s) is/are objected to.			
8) Claim(s) are subject to restriction and/	or election requirement.		
Application Papers			
9) The specification is objected to by the Examir	ner.		
10)☐ The drawing(s) filed on is/are: a)☐ ac	cepted or b) objected to b	by the Examiner.	
Applicant may not request that any objection to the	e drawing(s) be held in abeyan	ce. See 37 CFR 1.85(a).	
Replacement drawing sheet(s) including the corre	, -	, ,	
11) The oath or declaration is objected to by the E	Examiner. Note the attached	Office Action or form PTO-152.	
Priority under 35 U.S.C. § 119			
12) Acknowledgment is made of a claim for foreig	n priority under 35 U.S.C. §	119(a)-(d) or (f).	
a) ☐ All b) ☐ Some * c) ☐ None of:			
1. Certified copies of the priority documer	nts have been received.		
2. Certified copies of the priority documer	nts have been received in Ap	oplication No	
Copies of the certified copies of the pri	ority documents have been	received in this National Stage	
application from the International Bure	, , , , , , , , , , , , , , , , , , , ,		
* See the attached detailed Office action for a lis	st of the certified copies not	eceived.	
Attachment(s)			
1) Notice of References Cited (PTO-892)		ummary (PTO-413)	
 Notice of Draftsperson's Patent Drawing Review (PTO-948) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)/Mail Date formal Patent Application (PTO-152)	
Paper No(s)/Mail Date	6) Other:		

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DETAILED ACTION

This office action is in response to the filing of the RCE on 12 July 2006. Claims 14, 16 and 17 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant added the claim language "the emitter comprising a first sidewall with a first reentry feature consisting entirely of a fist undercut profile". There is no support in applicant's specification for an emitter with a reentry. Paragraph 25 of applicant's specification reads "as emitter layer 116A is not used to create the reentry features, emitter layer 116A is selectively etched to produce a more vertical sidewall than cap layer 118A."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 14 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Feng et al. (6,727,530).

Feng et al. disclose a heterojunction bipolar transistor where a collector (203-g) is atop a sub-collector (203-e), a base (203-h) atop the collector (203-h); a base contact (213) atop the base (203-h); an emitter (E; 203-k) atop the base (203-h), the emitter (E) comprising first sidewall with a first reentry feature consisting entirely of a first undercut profile; an emitter cap (203-l) atop the emitter (E; 203-k), the emitter cap (203-l) comprising a second sidewall with a second reentry feature consisting entirely of a second undercut profile, and an emitter metal (211) atop the emitter cap (203-l). Feng et al. further disclose the collector (203-g) comprising a third sidewall reentry feature consisting entirely of a third undercut profile (Fig. 1 & 2; col. 4, lines 30-56; col. 6, lines.20-43).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feng et al. ('530) in view of Feng et al. (6,770,919).

Feng et al. ('530) disclose the subject matter claimed above except the base comprising a fourth sidewall with a fourth reentry feature consisting entirely of a fourth undercut profile.

Feng et al. ('919) disclose a heterojunction bipolar transistor where a collector (6) is atop a sub-collector (2), a base (8) atop the collector (6); a base contact (20) atop the base (8); an emitter (14) atop the base (8); an emitter cap (16) atop the emitter (14), the emitter cap (16) comprising a first sidewall with a first reentry feature consisting entirely of a first undercut profile, and an emitter metal (18) atop the emitter cap (16). Feng et al. ('919) further disclose the collector (6) comprising a second sidewall reentry feature consisting entirely of a second undercut profile. Feng et al. ('919) also disclose the base comprising a third sidewall with a third reentry feature consisting entirely of a third undercut profile (Fig. 2F; col. 4, lie 32 thru col. 5, line13).

Since Feng et al. ('530) and Feng et al. ('919) are both from the same field of endeavor, a heterojunction bipolar transistor, the purpose disclosed by Feng et al. ('919) would have been recognized in the pertinent art of Feng et al. ('530). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Feng et al. ('530) by the base comprising a sidewall with a reentry feature consisting entirely of an undercut profile as taught by Feng et al. ('919) to achieve high speed, low noise performance in heterojunction bipolar transistors (col. 2, lines 23-44).

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Response to Arguments

Applicant's arguments, see the amendment, filed 7 September 2006, with respect to the rejection(s) of claim(s) 14, 16 and 17 under 35 U.S.C. 102 and 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Feng et al. (6,727,530).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Youn et al. (6,780,702) disclose a heterojunction bipolar transistor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela E. Perkins whose telephone number is (571) 272-1840. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on (571) 272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PEP

Supervisory Patent Examiner